STATE OF MISSOURI

DEPARTMENT OF NATURAL RESOURCES

MISSOURI CLEAN WATER COMMISSION

MISSOURI STATE OPERATING PERMIT

In compliance with the Missouri Clean Water Law, (Chapter 644 R.S. Mo. as amended, hereinafter, the Law), and the Federal Water Pollution Control Act (Public Law 92-500, 92nd Congress) as amended,

Permit No.	MO-0115061
Owner:	Tyson Foods, Inc.
Address:	2210 West Oaklawn Drive, Springdale, AR 72764
Continuing Authority:	Same as above
Address:	Same as above
Facility Name:	Tyson Foods – Sedalia Processing Plant
Address:	19571 Whitfield Road, PO Box 1058 Sedalia, MO 65301
Legal Description:	See page 2
Latitude/Longitude:	See page 2
Receiving Stream:	See page 2
First Classified Stream and ID:	See page 2
USGS Basin & Sub-watershed No.:	See page 2

is authorized to discharge from the facility described herein, in accordance with the effluent limitations and monitoring requirements as set forth herein:

FACILITY DESCRIPTION

See page 2

This permit authorizes only wastewater discharges under the Missouri Clean Water Law and the National Pollutant Discharge Elimination System; it does not apply to other regulated areas. This permit may be appealed in accordance with Section 644.051.6 of the Law.

July 25, 2003
Effective Date

Stephen M. Mahfood, Director, Department of Natural Resources
Executive Secretary, Clean Water Commission

July 24, 2008
Expiration Date

Jim Hull, Director of Staff, Clean Water Commission

MO 780-0041 (10-93

FACILITY DESCRIPTION (continued)

Outfall #001 - Wastewater Plant - SIC #2015
Dissolved air floatation/anaerobic lagoons/complete mix activated sludge/sludge storage basin/sludge is land applied.
Design population equivalent is 306,618.
Design flow is 1.8 MGD (7 days per week).
Actual flow is 1.95 MGD (7 days per week).
Design sludge production is 821 dry tons/year.
Actual sludge production is 778 dry tons/year.

Outfall #002 - Stormwater from Poultry Processing Plant - SIC #2015
Design flow is 1.8 MGD.
Actual flow is dependent upon precipitation.

Outfall #003 - Stormwater from Poultry Processing Plant - SIC #2015
Design flow is 2.5 MGD.
Actual flow is dependent upon precipitation.

Outfall #004 - Stormwater from Poultry Processing Plant - SIC #2015
Design flow is 1.15 MGD.
Actual flow is dependent upon precipitation.

Outfall #005 - Stormwater from Poultry Processing Plant - SIC #2015
Previously this outfall was the representative sampling point of Outfalls #002 & #003, however, direct sampling of Outfalls #002 & #003 is now required. Therefore, monitoring is no longer required at Outfall #005.

Outfall #006 – Stormwater from WWTP – SIC #2015
(West side of drive way, adjacent to the WWTP gate)
Design flow is 126,700 gallons per day.
Actual flow is dependent upon precipitation.

Outfall #007 - Stormwater from WWTP – SIC #2015
(East side of drive way, adjacent to the WWTP gate)
Design flow is 156,000 gallons per day.
Actual flow is dependent upon precipitation.

Outfall #008 - Stormwater from River Valley Animal Foods Plant – SIC #2077
(Rendering Plant at the outfall of the stormwater collection basin)
Design flow is 39,906 gallons per day.
Actual flow is dependent upon precipitation.

Ambient Temperature Measurement Point – Upstream monitoring location for temperature requirements. In-stream monitoring of temperature shall be taken on Little Muddy Creek upstream of the low water crossing in SE ¼, SW ¼, Sec. 12, T46N, R22W. This site is upstream of the confluence with the Unnamed Tributary to Little Muddy Creek, which received flow from Outfall #001.

Temperature Compliance Point – Downstream monitoring location for temperature requirements. In-stream monitoring of temperature shall be taken on the Tributary to Little Muddy Creek at the road crossing in NE ¼, Sec. 14, T46N, R22W. This site is located approximately where the classified portion of creek begins. This stream segment is on the 303(d) list for temperature.

LEGAL DESCRIPTION

Outfall #001 - W ½, NW ¼, Sec. 23, T46N, R22W, Pettis County

Outfalls #002, #003, #005 & #008 - NE ¼, SE ¼, Sec. 22, T46N, R22W, Pettis County

Outfall #004 - SW ¼, SE ¼, Sec. 22, T46N, R22W, Pettis County

Outfall #006 - SE ¼, NE ¼, Sec. 22, T46N, R22W, Pettis County

Outfall #007 - SW ¼, NW ¼, Sec. 23, T46N, R22W, Pettis County

Ambient Temperature Measurement Point - SE ¼, SW ¼, Sec. 12, T46N, R22W, Pettis County

Temperature Compliance Point - NE ¼, Sec. 14, T46N, R22W, Pettis County

Land Application Sites - Sec. 14, 15, 22 & 23, T46N, R22W, Pettis County

RECEIVING STREAM
FIRST CLASSIFIED STREAM & ID
USGS BASIN & SUB-WATERSHED NO.

Outfall #001:	Tributary to Little Muddy Creek (U) Tributary to Little Muddy Creek (C) (03490) (10300103-040003)
Outfalls #002 - #008:	Unnamed Tributary to Muddy Creek (U) Muddy Creek (C) (00855) (10300103-040003)
Ambient Temperature Measurement Point:	Little Muddy Creek (C) (00856) (10300103-040003)
Temperature Compliance Point:	Tributary to Little Muddy Creek (C) (03490) (10300103-040003)

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

The permittee is authorized to discharge from outfall(s) with serial number(s) as specified in the application for this permit. The interim effluent limitations shall become effective upon issuance and remain in effect until June 30, 2005. Such discharges shall be controlled, limited and monitored by the permittee as specified below:

OUTFALL NUMBER AND EFFLUENT PARAMETER(S)	UNITS	INTERIM EFFLUENT LIMITATIONS DAILY MAXIMUM	INTERIM EFFLUENT LIMITATIONS WEEKLY AVERAGE	INTERIM EFFLUENT LIMITATIONS MONTHLY AVERAGE	MONITORING REQUIREMENTS MEASUREMENT	MONITORING REQUIREMENTS SAMPLE FREQUENCY	MONITORING REQUIREMENTS TYPE
Outfall #001							
Flow	MGD	*		*	once/day		24 hr. total
Total Ammonia as N	mg/L				twice/week***		grab
(May - October)		3		*			
(November - April)		4		*			
Biochemical Oxygen Demand$_5$	mg/L				twice/week***		24 hr. comp.
(May - October)		10		*			and grab
(November - April)		15		*			
pH – Units	SU	**		**	twice/week***		grab
Total Suspended Solids	mg/L	30		20	twice/week***		24 hr. comp. and grab
Oil & Grease	mg/L	15		10	twice/week***		24 hr. comp. and grab

MONITORING REPORTS SHALL BE SUBMITTED MONTHLY; THE FIRST REPORT IS DUE September 28, 2003.

Whole Effluent Toxicity (WET) test	% Survival	See Special Conditions	once/year	24 hr. composite

MONITORING REPORTS SHALL BE SUBMITTED ANNUALLY; THE FIRST REPORT IS DUE October 28, 2004.

Instream Monitoring Points							
Ambient Temperature Measurement Point (Note 5)	°F	*		*	once/day		grab
Temperature Compliance Point (Note 5)	°F	*		*	once/day		grab
Ambient/Compliance Point Temperature Difference (Note 5)	°F	*		*	once/day		grab
Temperature Maximum (Note 5)	°F	*		*	once/day		grab

MONITORING REPORTS SHALL BE SUBMITTED MONTHLY; THE FIRST REPORT IS DUE September 28, 2003. THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.

B. STANDARD CONDITIONS

IN ADDITION TO SPECIFIED CONDITIONS STATED HEREIN, THIS PERMIT IS SUBJECT TO THE ATTACHED Part I STANDARD CONDITIONS DATED October 1, 1980, AND HEREBY INCORPORATED AS THOUGH FULLY SET FORTH HEREIN.

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

The permittee is authorized to discharge from outfall(s) with serial number(s) as specified in the application for this permit. The final effluent limitations shall become effective July 1, 2005 and remain in effect until expiration of the permit. Such discharges shall be controlled, limited and monitored by the permittee as specified below:

OUTFALL NUMBER AND EFFLUENT PARAMETER(S)	UNITS	FINAL EFFLUENT LIMITATIONS			MONITORING REQUIREMENTS	
		DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
Outfall #001						
Flow	MGD	*		*	once/day	24 hr. total
Total Ammonia as N	mg/L				twice/week***	grab
(May - October)		3		*		
(November - April)		4		*		
Biochemical Oxygen Demand$_5$	mg/L				twice/week***	24 hr. comp. and grab
(May - October)		10		*		
(November - April)		15		*		
pH – Units	SU	**		**	twice/week***	grab
Total Suspended Solids	mg/L	30		20	twice/week***	24 hr. comp. and grab
Oil & Grease	mg/L	15		10	twice/week***	24 hr. comp. and grab
MONITORING REPORTS SHALL BE SUBMITTED MONTHLY; THE FIRST REPORT IS DUE September 28, 2003.						
Whole Effluent Toxicity (WET) test	% Survival	See Special Conditions			once/year	24 hr. composite
MONITORING REPORTS SHALL BE SUBMITTED ANNUALLY; THE FIRST REPORT IS DUE October 28, 2004.						
Instream Monitoring Points						
Ambient Temperature Measurement Point (Note 3)	°F	*		*	once/day	grab
Temperature Compliance Point (Note 3)	°F	*		*	once/day	grab
Ambient/Compliance Point Temperature Difference (Note 3)	°F	± 5		± 5	once/day	grab
Temperature Maximum (Note 3)	°F	90		90	once/day	grab
MONITORING REPORTS SHALL BE SUBMITTED MONTHLY; THE FIRST REPORT IS DUE September 28, 2003. THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.						

B. STANDARD CONDITIONS

IN ADDITION TO SPECIFIED CONDITIONS STATED HEREIN, THIS PERMIT IS SUBJECT TO THE ATTACHED Part I STANDARD CONDITIONS DATED October 1, 1980, AND HEREBY INCORPORATED AS THOUGH FULLY SET FORTH HEREIN.

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

The permittee is authorized to discharge from outfall(s) with serial number(s) as specified in the application for this permit. The final effluent limitations shall become effective upon issuance and remain in effect until expiration of the permit. Such discharges shall be controlled, limited and monitored by the permittee as specified below:

OUTFALL NUMBER AND EFFLUENT PARAMETER(S)	UNITS	FINAL EFFLUENT LIMITATIONS			MONITORING REQUIREMENTS	
		DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
Outfalls #002, 003, 004, 006, 007 & 008 - Stormwater(Note 2)						
Flow	MGD	*		*	once/quarter****	24 hr. estimate
Chemical Oxygen Demand	mg/L	*		*	once/quarter****	grab
Biochemical Oxygen Demand$_5$	mg/L	*		*	once/quarter****	grab
Total Suspended Solids	mg/L	*		*	once/quarter****	grab
Oil & Grease	mg/L	*		*	once/quarter****	grab
pH - Units	SU	*		*	once/quarter****	grab

MONITORING REPORTS SHALL BE SUBMITTED QUARTERLY; THE FIRST REPORT IS DUE October 28, 2003. THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.

B. STANDARD CONDITIONS

IN ADDITION TO SPECIFIED CONDITIONS STATED HEREIN, THIS PERMIT IS SUBJECT TO THE ATTACHED Part I STANDARD CONDITIONS DATED October 1, 1980, AND HEREBY INCORPORATED AS THOUGH FULLY SET FORTH HEREIN.

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (continued)

* Monitoring requirement only.
** pH is measured in pH units and is not to be averaged. The pH is limited to the range of 6.0-9.0 pH units.
*** Sample two (2) times per week on Wednesdays & Fridays. Wednesdays sample is a 24 hr. composite and Fridays sample is a grab.
**** Sample once per quarter in the months of January, April, July & October.

Note 1 – Reserved

Note 2 - Outfalls #002 - #004 and #006 - #008 are to be monitored quarterly during or following a rainfall event. Results are to be reported quarterly.

Note 3 – Effluent from Outfall #001 shall not elevate or depress the temperature of the receiving stream at the compliance point more than five (5°) degrees Fahrenheit. Temperature difference shall be calculated by comparing the compliance point with the ambient measurement point. The stream temperature at the compliance point shall not exceed ninety (90°) degrees Fahrenheit due to the effluent. If future studies prove that this instream limit is not needed, this permit has a reopener clause. See Special Condition #1.

Note 4 – Reserved

Note 5 – Temperature difference shall be calculated by comparing the compliance point to the ambient measurement point. After the interim period, limits described in Note 3 will be in effect.

C. SPECIAL CONDITIONS

1. This permit may be reopened and modified, or alternatively revoked and reissued, to:
   (a) Comply with any applicable effluent standard or limitation issued or approved under Sections 301(b)(2)(C) and (D), 304(b)(2), and 307(a) (2) of the Clean Water Act, if the effluent standard or limitation so issued or approved:
      (1) contains different conditions or is otherwise more stringent than any effluent limitation in the permit; or
      (2) controls any pollutant not limited in the permit.
   (b) Incorporate new or modified effluent limitations or other conditions, if the result of a waste load allocation study, toxicity test or other information indicates changes are necessary to assure compliance with Missouri's Water Quality Standards.
   (c) Incorporate new or modified effluent limitations or other conditions if, as the result of a watershed analysis, a Total Maximum Daily Load (TMDL) limitation is developed for the receiving waters which are currently included in Missouri's list of waters of the state not fully achieving the state's water quality standards, also called the 303(d) list.

   The permit as modified or reissued under this paragraph shall also contain any other requirements of the Clean Water Act then applicable.

2. Outfalls #002 thru #008, inclusively, shall be clearly marked in the field.

3. Permittee will cease discharge by connection to areawide wastewater treatment system within 90 days of notice of its availability.

4. Whole Effluent Toxicity (WET) tests will be conducted as follows:

SUMMARY OF WET TESTING FOR THIS PERMIT				
OUTFALL	A.E.C. %	FREQUENCY	SAMPLE TYPE	MONTH
#001	100%	Annually	24 hr. comp.	May

   a. Test Schedule and Follow-Up Requirements

      (1) Perform a single-dilution test in the months and at the frequency specified above.

      If the test passes the effluent limit do not repeat test until the next test period. Submit results with the annual report.
      If the test fails the effluent limit a multiple dilution test shall be performed within 30 days, and biweekly thereafter until one of the following conditions are met:

      (a) THREE CONSECUTIVE MULTIPLE-DILUTION TESTS PASS. No further tests need to be performed until next regularly scheduled test period.
      (b) A TOTAL OF THREE MULTIPLE-DILUTION TESTS FAIL.

      (2) The permittee shall submit a summary of all test results for the test series to the Planning Section of the WPCP, DNR, Box 176, Jefferson City, MO within 14 days of the third failed test. DNR will contact the permittee with initial guidance on conducting a toxicity identification evaluation (TIE) or toxicity reduction evaluation (TRE). The permittee shall submit a plan for conducting a TIE or TRE to the Planning Section of the WPCP within 60 days of the date of DNR's letter. This plan must be approved by DNR before the TIE or TRE is begun. A schedule for completing the TIE or TRE shall be established in the plan approval.

      (3) Upon DNR's approval, the TIE/TRE schedule may be modified if toxicity is intermittent during the TIE/TRE investigations. A revised WET test schedule

may be established by DNR for this period.

C. SPECIAL CONDITIONS (continued)

4. Whole Effluent Toxicity (WET) tests (continued)

a. Test Schedule and Follow-Up Requirements (continued)

(4) If a previously completed TIE has clearly identified the cause of toxicity, additional TIEs will not be required as long as effluent characteristics remain essentially unchanged and the permittee is proceeding according to a DNR approved schedule to complete a TRE and reduce toxicity. Regularly scheduled WET testing as required in part b.(1) will be required during this period.
(5) In addition to the WET test summary report required in part (2), all failing test results shall be reported to DNR within 14 days of the availability of results.
(6) All WET test results for the reporting period shall be summarized and submitted to DNR by the end of the following October. When WET test sampling is required to run over one DMR period, each DMR report shall contain information generated during the reporting period.

b. PASS/FAIL procedure and effluent limitations

(1) To pass a single-dilution test, mortality observed in the AEC test concentration shall not be significantly different (at the 95% confidence level; p = 0.05) than that observed in the upstream receiving-water control. The appropriate statistical tests of significance will be those outlined in the most current USEPA acute toxicity manual or those specified by the MDNR.

(2) To pass a multiple-dilution test:

(a) the computed percent effluent at the edge of the zone of initial dilution (AEC) must be less than three-tenths (0.3) of the LC_{50} concentration for the most sensitive of the test organisms, or,
(b) all dilutions equal to or greater than the AEC must be nontoxic. Failure of one multiple-dilution test is considered an effluent limit violation.

c. Test Conditions

(1) Test species: Ceriodaphnia dubia and fathead minnows, Pimephales promelas. Organisms used in WET testing should come from cultures reared for the purpose of conducting toxicity tests and should be cultured in a manner consistent with the most current USEPA guidelines. All test animals should be cultured as described in EPA-600/4-90/027.

(2) Test period: 48 hours at the "Acceptable Effluent Concentration" (AEC) specified above.

(3) When dilutions are required, upstream receiving stream water will be used as dilution water. If upstream water is unavailable or if mortality in the upstream water exceeds 10%, "reconstituted" water will be used. Procedures for generating reconstituted water will be supplied by the Department of Natural Resources (DNR).

(4) Tests should be initiated immediately after the sample is collected, but tests must be initiated no later than 36 hours after collection.

(5) Single-dilution tests will be run with:

(a) Effluent at the AEC concentration;
(b) 100% receiving-stream water (if available), collected upstream of the outfall at a point beyond any influence of the effluent; and
(c) reconstituted water.

C. SPECIAL CONDITIONS (continued)

4. Whole Effluent Toxicity (WET) tests (continued)

c. Test Conditions (continued)

(6) Multiple-dilution tests will be run with:

(a) 100%, 50%, 25%, 12.5%, and 6.25% effluent, unless the AEC is less than 25% effluent, in which case dilutions will be 4 times the AEC, two times the AEC, AEC, 1/2 AEC and 1/4 AEC.
(b) 100% receiving-stream water (if available), collected upstream of the outfall at a point beyond any influence of the effluent; and
(c) reconstituted water.

(7) If reconstituted-water control mortality for a test species exceeds 10%, the entire test will be rerun.

5. Report as no-discharge when a discharge does not occur during the report period.

6. General Criteria. The following water quality criteria shall be applicable to all waters of the state at all times including mixing zones. No water contaminant, by itself or in combination with other substances, shall prevent the waters of the state from meeting the following conditions:
(a) Waters shall be free from substances in sufficient amounts to cause the formation of putrescent, unsightly or harmful bottom deposits or prevent full maintenance of beneficial uses;
(b) Waters shall be free from oil, scum and floating debris in sufficient amounts to be unsightly or prevent full maintenance of beneficial uses;
(c) Waters shall be free from substances in sufficient amounts to cause unsightly color or turbidity, offensive odor or prevent full maintenance of beneficial uses;
(d) Waters shall be free from substances or conditions in sufficient amounts to result in toxicity to human, animal or aquatic life;
(e) There shall be no significant human health hazard from incidental contact with the water;
(f) There shall be no acute toxicity to livestock or wildlife watering;
(g) Waters shall be free from physical, chemical or hydrologic changes that would impair the natural biological community;
(h) Waters shall be free from used tires, car bodies, appliances, demolition debris, used vehicles or equipment and solid waste as defined in Missouri's Solid Waste Law, section 260.200, RSMo, except as the use of such materials is specifically permitted pursuant to section 260.200-260.247.

7. Land Application of Industrial Sludge

a. This special condition does not apply to fertilizer products that are exempted under the Missouri Clean Water Law and regulations, 10 CSR 20-6.015(3)(B)8.

b. Land Application of Sludge. The term “sludge” used herein means sludge, biosolids, by-products and residuals from industrial waste sources. It does not included licensed fertilizer products.

c. Permitted Sites. This permit authorizes land application of sludge to those sites that have been public noticed and listed in the permit facility description. Permittee requests for additional sites including non-owned property must follow permit modification procedures prior to land application. To request additional sites, the permittee shall submit a revised permit application Forms A and R; names and mailing addresses for the landowners and the adjacent property owners for each application site, topographic maps of each site and other pertinent information.

C. SPECIAL CONDITIONS (continued)

7. Land Application of Industrial Sludge (continued)

d. Public Access Restrictions. Sludge that is applied to potential public access sites must meet the Class A pathogen stabilization criteria listed in 40 CFR 503 regulations such as composting, heat treatment, etc. Sludge that does not meet Class A requirements must be either: (a) applied to agricultural cropland sites; or (b) site must be fenced and posted to restrict public access for at least 12 months; or (c) sludge must be subsurface injected and site restricted for 30 days.

e. No-Discharge Requirement. Sludge shall be stored and land applied during suitable conditions so that there is no-discharge of process wastes from the storage site or land application site. Uncontaminated storm water runoff from land application sites may be discharged when land application was conducted in accordance with permit requirements. In no case, shall the permittee cause violation of the Water Quality Standards rules for general criteria and specific criteria under 10 CSR 20-7.031.

f. Reserved

g. Sludge Characteristics. Sludge that meets the characteristics listed in the permit application Form R is authorized for land application. Only those pollutants listed in the permit application may be land applied. If new pollutants are identified or if the sludge characteristics or pollutant levels are found to be significantly higher than the permit application values, the department shall be notified within 30 days and a revised permit application submitted prior to any further sludge application.

h. Sludge Monitoring.

Each test shall be conducted on a composite sample collected at representative locations of the sludge to be land applied.

(1) Test once/day during land application for percent moisture and percent total solids.
(2) Test once/100 dry tons for: ammonia nitrogen and nitrate nitrogen.
(3) Test once/500 dry tons for: sodium, total phosphorus, pottasium, chlorides, oil & grease and pH.

i. Soil Monitoring.

(1) Composite soil samples shall be collected for all sites where land application has occurred within the last 12 months; or where land application will occur within the next 12 months.

(a) Nitrate nitrogen as N shall be tested once per year. Soil samples shall be collected for the top 0-12 or 0-24 inches or more.
(b) Soil pH, percent organic matter, cation exchange capacity, exchangeable sodium percentage and available phosphorus as P (Bray P-1 test method) shall be sampled prior to land application and once every four (4) years thereafter, unless no additional land application has occurred at the site. Soil samples shall be collected for the surface 6 inches of soil (0-6 inch depth)

(2) Soil sampling shall be in accordance with University of Missouri (MU) publication G9110, Sampling Your Soil For Testing or other methods approved by the department.

(3) The annual report shall include a summary of the soil test results for each field.

C. SPECIAL CONDITIONS (continued)

7. Land Application of Industrial Sludge (continued)

j. Subsurface Injection Requirement. Subsurface Injection or immediate incorporation after surface application should be considered where feasible and practicable to reduce exposure to wash off by storm water runoff and to retain nutrients in the soil for crop requirements. Dissolved Air Flotation (DAF) sludge from meat and poultry slaughter and processing facilities or other similar sludge with high oil and grease content shall be subsurface injected or immediately incorporated.

k. Slope and Runoff Restrictions.

(1) Do not place sludge in a location where it is reasonably certain that pollutants will be transported into waters or the state during storm water runoff.
(2) All application sites shall have a Soil and Water Conservation Plan to minimize soil erosion and storm water runoff. The plan shall be developed in accordance with standards of the USDA, Natural Resources Conservation Service (NRCS).
(3) Subsurface injection should be applied along the contour of the slope to minimize surfacing of liquids at the down gradient end of the injection trench.
(4) Sludge shall not be applied to slopes exceeding ten (10%) percent.

l. Nutrient Management

Sludge that is land applied shall be applied at nutrient application rates for benefical use in agricultural crop production.

(1) Nitrogen. The permittee shall not exceed the plant available nitrogen management approach.
(2) The actual application rates for a given year or growing season must be adjusted based on the approved management approach and the actual sludge and soil testing results and crop requirement. If crop yields are less than predicted, the application rates and management practices must be evaluated and adjusted as appropriate.
(3) This permit will be modified to require a Nutrient Management Plan (NMP) after promulgation of applicable state and EPA rules and guidelines. The NMP will replace the current PAN and phosphorus methods.

m. Other Pollutant Limitations and Loading Rates

(1) Oil and grease application shall not exceed 0.5% of soil weight or 10,000 pounds oil/acre/year for subsurface injection or soil incorporation. For surface application to growing vegetation, the sludge shall not exceed 15% oil & grease content and shall not exceed 1,000 pounds oil/acre. Avoid heavy application of oil and grease within 30 days before planting of row crops. Oil and grease sludges with low nitrogen content, more than 20:1 Carbon to Nitrogen ratio, may require supplemental nitrogen application to provide proper decomposition of the oil content and prevent nitrogen deficiencies for the crop.
(2) Metals content in the sludge shall not exceed the concentrations and cumulative loading limits listed in University of Missouri, Water Quality Guide number WQ-425. If metals exceed the concentrations in Table 2, the cumulative pounds per acre of that metal shall be reported in the annual report.
(3) Soil content of sodium shall not exceed 10% Exchangeable Sodium Percentage.
(4) Application of chlorides shall not exceed 500 pounds/acre/year. Chlorides are extremely mobile and will be leached into the soil with percolating water. Permittee shall not cause groundwater concentrations exceeding 250 mg/L of chlorides in subsurface waters of the state in accordance with the

water quality standard rule under 10 CSR 20-7.031.
(5) Application of boron shall not exceed a cumulative total of 600 pounds/acre.

C. SPECIAL CONDITIONS (continued)

7. Land Application of Industrial Sludge (continued)

n. Lagoon Closure Requirements. Prior to taking the lagoon out of service, a lagoon closure plan shall be submitted for department review and approval in accordance with 10 CSR 20-6.015(5). The lagoon must be closed within two years after ceasing to be used for wastewater treatment. All sludge shall be removed from the lagoon prior to lagoon closure.

o. Training

The permittee shall provide an employee training program with at least annual refresher courses in proper land application practices and permit requirements.

p. Annual Report on Land Application.

Permittee shall submit an annual report summarizing sludge spreading for the previous calendar year. The report shall include, but is not limited to the location of each site, crops grown and harvested, crop yields, total sludge applied to each site in dry tons per acre, dates applied, nitrogen applications rate in pounds/acre and testing results.

8. Collection facilities shall be provided on-site, and arrangement made for proper disposal of waste products, including but not limited to, petroleum waste products and solvents.

9. All fueling facilities present on the site shall adhere to applicable federal and state regulations concerning underground storage, above ground storage, and dispensers, including spill prevention, control and counter measures.

10. Substances regulated by Federal Law under the Resource Conservation and Recovery Act (RCRA) or the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) that are transported, stored, or used for maintenance, cleaning or repair shall be managed according to the provisions of RCRA and CERCLA.

11. If Water Pollution Control Program initiates a major modification to this permit, it will be public noticed in accordance with 10 CSR 20-6.020.

D. SCHEDULE OF COMPLIANCE

1. Permittee must demonstrate that there is no impact to the waters of the state by completing a biota study or that the temperature requirements in the final limits can be met by July 1, 2005, by upgrading the facility according to the following schedule:

a. Submit an engineering report for upgrading by July 1, 2004.
b. Submit engineering plans and specifications, and application for a construction permit by January 1, 2005.
c. Complete construction and meet temperature requirements in Final Effluent Limitations of State Operating Permit MO-0115061 by July 1, 2005.

2. Submit an engineering evaluation of the additional load on the waste water treatment facility resulting from acceptance of turkey processing raw materials by November 1, 2003.

SUMMARY OF TEST METHODOLOGY FOR WHOLE-EFFLUENT TOXICITY TESTS

Whole-effluent-toxicity test required in NPDES permits shall use the following test conditions when performing single or multiple dilution methods. Any future changes in methodology will be supplied to the permittee by the Missouri Department of Natural Resources (MDNR). Unless otherwise specified by MDNR, procedures should be consistent with Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms, EPA/600/4-90/027.

Test conditions for Ceriodaphnia dubia:

Test duration:	48 h
Temperature:	25 ± 2°C
Light Quality:	Ambient laboratory illumination
Photoperiod:	16 h light, 8 h dark
Size of test vessel:	30 mL (minimum)
Volume of test solution:	15 mL (minimum)
Age of test organisms:	<24 h old
No. of animals/test vessel:	5
No. of replicates/concentration:	4
No. of organisms/concentration:	20 (minimum)
Feeding regime:	None (feed prior to test)
Aeration:	None
Dilution water:	Upstream receiving water; if no upstream flow, synthetic water modified to reflect effluent hardness.
Endpoint:	Mortality (Statistically significant difference from upstream receiving water control at $p \leq 0.05$)
Test acceptability criterion:	90% or greater survival in controls

Test conditions for (Pimephales promelas):

Test duration:	48 h
Temperature:	25 ± 2°C
Light Quality:	Ambient laboratory illumination
Photoperiod:	16 h light/ 8 h dark
Size of test vessel:	250 mL (minimum)
Volume of test solution:	200 mL (minimum)
Age of test organisms:	1-14 days (all same age)
No. of animals/test vessel:	10
No. of replicates/concentration:	4 (minimum) single dilution method 2 (minimum) multiple dilution method
No. of organisms/concentration:	40 (minimum) single dilution method 20 (minimum) multiple dilution method
Feeding regime:	None (feed prior to test)
Aeration:	None, unless DO concentration falls below 4.0 mg/L; rate should not exceed 100 bubbles/min.
Dilution water:	Upstream receiving water; if no upstream flow, synthetic water modified to reflect effluent hardness.
Endpoint:	Mortality (Statistically significant difference from upstream receiving water control at $p \leq 0.05$)
Test Acceptability criterion:	90% or greater survival in controls

Date of Fact Sheet: December 23, 1999

Date of Public Notice: March 17, 2000; November 24, 2000; December 8, 2002; May 9, 2003

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTME (NPDES) PERMIT
FACT SHEET

This Fact Sheet explains the applicable regulations, rationale for development of this permit and the public participation process.

NPDES PERMIT NUMBER: MO-0115061

FACILITY NAME: Tyson Foods, Inc.

OWNER NAME: Tyson Foods, Inc.

LOCATION: Sections 12, 13, 22, and 23, T46N, R22W County: Pettis

RECEIVING STREAM: Outfalls #001 Unnamed Tributary to Little Muddy Creek
Outfalls #002 - #008 Unnamed Tributary to Muddy Creek

FACILITY CONTACT PERSON: Mr. Don Burrows TELEPHONE: (660) 826-3233

FACILITY DESCRIPTION AND RATIONALE

Tyson Foods, Inc., 2210 West Oaklawn Dr., Springdale, AR 72764, has applied for reissuance of the operating permit for the Tyson Foods, Inc., facility located in Pettis County, Missouri.

The wastewater treatment plant is owned by Tyson Foods, Inc., and has a design flow of 1.8 MGD. The wastewater treatment plant receives wastewater from the Tyson Foods, Inc. Poultry Processing Plant, and the River Valley Animal Foods rendering plant, also owned by Tyson Foods, Inc. The Standard Industrial Classification (SIC) code is 2015. Wastewater is treated using dissolved air floatation units, complete mix activated sludge, and anaerobic lagoons. The discharge point is in the E 1/2, NE 1/4, Sec. 22, T46N, R22W, Pettis County, in River Reach Number 10300103-05-02. The design discharge is through outfall #001 to the Unnamed Tributary to Little Muddy Creek. Approximately 821 dry tons of sludge is produced annually. The sludge is land applied at agricultural rates in accordance with Standard Conditions Part III.

There are eight (8) outfalls that are identified in the application. Outfalls #002 through #008 consist of stormwater discharges from property owned by Tyson Foods, Inc. The actual flows from these outfalls are dependent upon precipitation. Outfalls #002 through #008 discharge to the Unnamed Tributary to Muddy Creek. Outfalls #002, #003 and #004 receive stormwater flow from the poultry Processing Plant. Outfalls #006 and #007 receive stormwater flow from the Wastewater Treatment Plant, and Outfall #008 receives stormwater flow from the River Valley Animal Foods rendering plant. There is also an ambient measurement point and a compliance point for temperature compliance.

The Unnamed Tributary to Little Muddy Creek and the Unnamed Tributary to Muddy Creek are unclassified at the point of discharge. Approximately two (2) miles below Outfall #001, Unnamed Tributary to Little Muddy Creek reaches Little Muddy Creek. Little Muddy Creek is classified as a class C stream. Approximately 1.25 miles below Outfalls #002 through #008, Unnamed Tributary to Muddy Creek reaches Muddy Creek, which is classified as a class C stream. The beneficial water uses (as listed in 10 CSR 20-7.031) for Little Muddy Creek and Muddy Creek are: livestock and wildlife watering, and protection of warm water aquatic life and human health – fish consumption.

In order to protect the water quality of the receiving streams and the water they flow into, effluent limitations are established in accordance with federal and state laws, the "best professional judgement" of the permit writer and the attached document entitled "total Maximum Daily Load for Little Muddy Creek & Tributary to Little Muddy Creek, Pettis County Missouri, completed December 6, 2000, approved January 12, 2001" for Temperature.

This permit will be issued for a period of <u>five</u> years.